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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
JACKY JOACHIM, ET AL.	: EXAMINER: GRAY, JILL M
SERIAL NO: 09/786,113	:
FILED: JUNE 4, 2001	: GROUP ART UNIT: 1774
FOR: METHOD FOR MAKING A FIBROUS INSULATING PRODUCT, SIZING STUFF AND COMPOSITION	:

APPEAL BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

This is an appeal of the Rejection dated December 14, 2006 of twice-rejected Claims 1, 2, 5-19 and 21-35. A Notice of Appeal is **submitted herewith**.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Isover Saint-Gobain having an address Les Miroirs 18, Avenue D'Alsace, F-92400 Courbevoie, France.

II. RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representative and the assignee are aware of no appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 1, 2, 5-19 and 21-35, all the claims in the application, stand rejected and are herein appealed. Claims 3, 4 and 20 have been canceled.

IV. STATUS OF THE AMENDMENTS

No amendment under 37 CFR 1.116 has been filed.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Claim 1

Independent Claim 1 recites a method of improving the mechanical strength after ageing of an insulation product comprising mineral wool, comprising:

melting a glass or rock mineral composition,

fiberizing the molten glass or mineral composition into filaments to form a mineral wool,

applying a size comprising a thermosetting resin to the mineral wool which has just been formed,

simultaneously or sequentially applying a hydrophilic latex to the mineral wool, then

taking up the sized mineral wool in the form of a web, and then

thermally curing the size,

wherein the hydrophilic latex comprises a dispersion or emulsion of homopolymer or copolymer prepared from one or more monomers each having at least one hydrophilic functional group selected from the group consisting of hydroxyl, carboxyl and ester, or

the hydrophilic latex comprises a dispersion or emulsion of a homopolymer or copolymer and a protective colloid having hydrophilic functional groups.

See the specification at page 1, lines 16-34; page 3, lines 24-31; page 4, lines 19-29; page 6, lines 3-15; page 9, lines 21-25; page 10, lines 16-19 and 35-37; and page 13, lines 1-23.

Claim 15

Independent Claim 15 recites an insulation product prepared by

melting a glass or rock mineral composition,

fiberizing the molten glass or mineral composition into filaments to form a mineral wool,

applying a size comprising a thermosetting resin to the mineral wool which has just been formed,

simultaneously or sequentially applying a hydrophilic latex to the mineral wool, then

taking up the sized mineral wool in the form of a web, and then

thermally curing the size,

wherein the hydrophilic latex comprises a dispersion or emulsion of homopolymer or copolymer prepared from one or more monomers each having at least one hydrophilic functional group selected from the group consisting of hydroxyl, carboxyl and ester, or

the hydrophilic latex comprises a dispersion or emulsion of a homopolymer or copolymer and a protective colloid having hydrophilic functional groups.

See the specification at the above cited locations in support of Claim 1.

Claim 21

Independent Claim 21 recites a sizing composition comprising a phenolic resin and a hydrophilic latex,

wherein the hydrophilic latex comprises a dispersion or emulsion of homopolymer or copolymer prepared from one or more monomers each having at least one hydrophilic functional group selected from the group consisting of hydroxyl, carboxyl and ester, or

the hydrophilic latex comprises a dispersion or emulsion of a homopolymer or copolymer and a protective colloid having hydrophilic functional groups.

See the specification at page 3, lines 29-31; page 4, lines 19-29; page 6, lines 3-15; and page 9, lines 21-23.

Claim 29

Independent Claim 29 recites a method of improving the mechanical strength after ageing of an insulation product comprising mineral wool, comprising:

melting a glass or rock mineral composition,

fiberizing the molten glass or mineral composition into filaments to form a mineral wool,

applying a size comprising a thermosetting resin to the mineral wool which has just been formed,

simultaneously or sequentially applying a hydrophilic latex to the mineral wool, then

taking up the sized mineral wool in the form of a web, and then

thermally curing the size,

wherein the mineral wool dissolves in a physiological medium and comprises 8 to 25% by weight of at least one alkali metal oxide.

See the specification at page 1, lines 16-34; page 3, lines 24-31; page 9, lines 21-25; page 10, lines 16-19 and 35-37; page 11, lines 11-15; and page 13, lines 1-23.

Claim 30

Independent Claim 30 recites an insulation product prepared by

melting a glass or rock mineral composition,

fiberizing the molten glass or mineral composition into filaments to form a mineral wool,

applying a size comprising a thermosetting resin to the mineral wool which has just been formed,

simultaneously or sequentially applying a hydrophilic latex to the mineral wool, then

taking up the sized mineral wool in the form of a web, and then

thermally curing the size,

wherein the mineral wool dissolves in a physiological medium and comprises 8 to 25% by weight of at least one alkali metal oxide.

See the specification at the above cited locations in support of Claim 29.

VI. GROUNDS OF REJECTION

Ground (A)

Claims 15, 19 and 27 stand rejected under 35 U.S.C. § 102(b) as anticipated by US 5,308,692 (Kennedy et al).

Ground (B)

Claims 1, 5-8, 10-14, 21, and 23-27 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kennedy et al in view of US 5,972,434 (Kajander) and US 5,284,700 (Strauss et al).

Ground (C)

Claims 9, 22 and 32 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kennedy et al in view of Kajander and Strauss et al, and further in view of US 5,190,997 (Lindemann et al).

Ground (D)

Claims 2, 16-17, 29-31, and 33-34 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kennedy et al in view of Kajander and Strauss et al, and further in view of WO 95/31411 (WO '411).

Ground (E)

Claims 18, 28 and 35 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kennedy et al in view of WO 98/40437 (WO '437).

VII. ARGUMENT

As a preface to discussion of the grounds of rejection, Applicants submit that it will be helpful to understand the nature of the present invention and the comparative data of record demonstrating the unexpected fruits thereof.

Applicants have discovered that when a particular hydrophilic latex, as recited in independent Claims 1 and 15, is applied with or sequentially to applying a thermosetting resin-based size to just-formed mineral wool, and prior to thermally curing the size, formation of an insulation product can be produced, having improved mechanical strength after ageing, and particularly after ageing in a wet medium, compared to corresponding products in which such a latex has not been added.

Applicants have further discovered that when a hydrophilic latex, without limitation, as recited in independent Claims 29 and 30, is applied as discussed above, where the mineral wool dissolves in a physiological medium and comprises 8 to 25% by weight of at least one alkali metal oxide, similar results are obtained.

A particularly effective sizing composition, as recited in independent Claim 21, comprises the above particular hydrophilic latex and a phenolic resin.

As described in the specification in the paragraph bridging pages 3 and 4, while the addition of the latex to the size did not modify, or modified only slightly, the mechanical properties, or even degraded these properties right after manufacture, it was possible to achieve a remarkable reduction in the loss of such properties after ageing, such as in a wet medium. (In some cases, properties were improved.) Applicants further describe at page 4, lines 30-35 of the specification, that this result is surprising since it might be thought that a

hydrophilic latex, by increasing the amount of water picked up by the product, would accelerate the loss of properties due to the wet medium, particularly in the case of products based on a so-called biosoluble mineral wool. Applicants continue, at the paragraph bridging pages 4 and 5, that without wishing to be bound by any scientific theory, it is possible that the hydrophilic character of the dispersed polymer phase of the latex gives the latter an advantageous affinity towards the mineral material forming the wool, possibly because of the formation of polar bonds, making the latex act, as it were, as an adhesion primer for the resin. This is because it was found, in comparatives tests of the tear strength of the resin, that the prior application of a hydrophilic latex to the mineral wool gives greater adhesion of the resin of the size to the surface of the mineral material.

Such comparative tests can be found in the specification between the use of no latex, and latex (in amounts of the order of 1 to 2%) according to the present invention. Tests were performed, as described in the specification beginning at page 13, line 1, wherein immersion water uptake, friability, puncture strength, tear strength, and compressive strength were measured. Each of Examples 1-12 (which individually are drawn to various combinations of mineral wool, thermosetting resin and hydrophilic latex) contains data from such comparative tests, the results shown in Tables 1-5 in the specification, beginning at page 17 and ending at page 24. As the data in these tables show, the above-discussed properties, after ageing, were demonstrably superior with the present invention compared to comparative products made without the addition of any latex.

In none of the rejections of record has the Examiner even commented on the above-discussed comparative data.

Ground (A)

Claims 15, 19 and 27 stand rejected under 35 U.S.C. § 102(b) as anticipated by Kennedy et al. That rejection is untenable and should not be sustained.

Kennedy et al discloses a non-woven fiber mat comprising a blend of mineral wool fibers and glass fibers bonded together with a fire-resistant binder system which comprises a mixture of a fire-resistant latex and an aqueous aldehyde condensation polymer-based thermosetting resin, wherein the latex is preferably a halogenated latex polymer, more preferably carboxylated, and the aldehyde condensation polymer is a modified urea-formaldehyde condensate thermosetting resin, wherein the modified urea-aldehyde condensate is prepared by reacting during the condensation reaction with ammonia or a primary polyamine (paragraph bridging cols. 2 and 3). Kennedy et al also discloses that an aqueous silica colloid may optionally be present in the binder (column 3, line 21ff). Kennedy et al discloses further that depending upon the desired results, various sizing compounds may be added to the mineral wool fibers (column 4, lines 20-22), but no particular sizing compounds are disclosed. Kennedy et al discloses that their fire-resistant mat is produced in a process in which a continuous membrane of fibers is formed, the binder is applied, and the mat is then heated to set or cure the binder (column 10, line 48 through column 11, line 68).

Kennedy et al does not anticipate the presently-claimed invention, nor does Kennedy et al otherwise render the presently-claimed invention unpatentable. The rejected claims require that either the monomers making up the hydrophilic latex **each** have at least one hydrophilic functional group selected from the group consisting of hydroxyl, carboxyl and ester, or that the hydrophilic latex comprise a protective colloid having hydrophilic functional groups. In the latices disclosed by Kennedy et al, **none** are based on polymers or copolymers

wherein each monomer has a hydroxyl, carboxyl or ester group, nor does Kennedy et al disclose the presence of a protective colloid. (The optional aqueous silica colloid of Kennedy et al would not be considered to be a protective colloid by persons of ordinary skill in the art.

More significantly, by applying the binder to an already-prepared membrane of fibers, rather than as a size to mineral wool which has just been formed, the structure of the fiber resistant mat of Kennedy et al would necessarily be different from that of the presently-claimed insulation product.

The Board is requested to take Official Notice that a binder, as used in Kennedy et al (and other applied prior art), is different from a size, as that term is used herein and as it would be understood by persons skilled in the art. Kennedy et al discloses that a *binder* refers to a composition which is applied on the fibers once they are formed, as a post-treatment step, whereas a *size* refers to a composition which is applied on the filaments during (or immediately thereafter) the formation of a mineral wool. Furthermore, a product, i.e., the present invention, wherein the filaments have been uniformly applied with a sizing composition comprising a hydrophilic latex prior to any shaping operation will inevitably possess different characteristics when compared to a product where a binder is applied to a continuous membrane of fibers, as disclosed by Kennedy et al.

For all the above reasons, it is respectfully requested that this rejection be REVERSED.

Ground (B)

Claims 1, 5-8, 10-14, 21, and 23-27 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kennedy et al in view of Kajander and Strauss et al. That rejection is untenable and should not be sustained.

The disclosure and deficiencies of Kennedy et al have been discussed above. Neither Kajander nor Strauss et al, alone or in any combination, remedy these deficiencies. The Examiner relies on Kajander and Strauss et al for their disclosures of known processes for preparing glass wool or fibers, which are subsequently used to form fibrous products such as mats.

Particularly, Kajander discloses fire-resistant glass fiber products, in which glass fiber, either individually or in the form of a fiber bundle, a nonwoven mat or a blanket of intermingled fibers is treated with a binder comprising a nitrogen containing compound and a boron containing compound wherein, when exposed to high temperatures, such as when encountered in a fire, the nitrogen containing compound will decompose to release nitrogen at a temperature below the softening point of the glass fiber, which nitrogen reacts with boron or boron oxide to form a sheath of refractory material around the fibers to protect them (Abstract). Particularly, Kajander discloses that in the known processes of making fiberglass insulation products, fine glass fiber is first formed from a melt by rotary fiberization, flame attenuation, etc., and then sprayed with an aqueous solution of a binder, typically phenol formaldehyde with urea or melamine extension (modification or fortification), melamine formaldehyde, or urea formaldehyde; the wetted fibers are then collected in a blanket on a permeable surface, compressed slightly or molded, dried and cured to form various fiberglass insulation products (column 12, line 31ff).

Strauss et al discloses fire-resistant mineral fibers useful for making building insulation (column 1, lines 14-19), which fibers, such as glass wool, may be comprised of attenuated glass filaments formed via perforated and rotating spinners, after which, preferably, a glass wool binder composition is sprayed onto the surfaces of the formed glass fibers, after which the binder solution is cured (column 5, lines 26-44).

The Examiner holds that it would have been obvious to modify Kennedy et al by producing the filaments of Kennedy et al "through any well-know [sic] and conventional method," such as those disclosed in Kajander and Strauss et al.

In reply, even if the mineral fibers of Kennedy et al were prepared by the conventional processes disclosed by Kajander and/or Strauss et al, the result would still not be the presently-claimed invention, because neither Kajander nor Strauss et al disclose the presence of the presently-recited hydrophilic latex applied to mineral wool as a size, prior to taking up the sized mineral wool in the form of a web.

Claim 10

Claim 10 is separately patentable, since Kennedy et al evinces no recognition of any significance with regard to glass transition temperature of the thermoplastic polymers used for their latex component. As is well-known, the glass transition temperature of polymers and copolymers is based on the particular materials used for the monomers, and for copolymers, the glass transition temperature is derived from the glass transition temperature of homopolymers derived from each different monomer, and the glass transition temperature is calculated based on the relative amounts of monomeric units in the copolymer. While the Examiner indicates at page 7 of the Office Action "reason to believe that properties such as

the glass transition temperature are within the instant claimed range," the Examiner has **no** such reason to believe, because the particular thermoplastic polymers disclosed in Kennedy et al are inclusive of polymers having a glass transition temperature outside the terms of the present claim.

Claim 11

The present argument is identical to that for Claim 10, *supra*.

Claim 21

Claim 21, being a separate independent claim, is separately patentable for reasons discussed under Ground (A) above, in that Kennedy et al does not disclose a homopolymer or copolymer prepared from one or more monomers **each** having at least one hydrophilic functional group selected from the group consisting of hydroxyl, carboxyl and ester, nor does Kennedy et al disclose the presence of a protective colloid having hydrophilic functional groups.

Claim 23

The present argument is identical to that for Claim 10, *supra*.

Claim 24

The present argument is identical to that for Claim 10, *supra*.

For all the above reasons, it is respectfully requested that this rejection be REVERSED.

Ground (C)

Claims 9, 22 and 32 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kennedy et al in view of Kajander and Strauss et al, and further in view of Lindemann et al. That rejection is untenable and should not be sustained.

The deficiencies in the combination of Kennedy et al with Kajander and Strauss et al have been discussed above. Lindemann et al does not remedy these deficiencies. Lindemann et al has been relied on for a disclosure of a water-repellent agent and a protective colloid.

Lindemann et al discloses an adhesive composition containing an aqueous copolymer emulsion which contains a first polymer network which is intertwined on a molecular scale with a second polymer network (Abstract), which polymer emulsion is disclosed as useful as a binder of fibers of fabrics, especially fiberfill (column 1, lines 14-21). Lindemann et al discloses myriad uses for their adhesive composition, such as in the manufacture of glass fiber mats (column 2, line 3ff). Lindemann et al is concerned that fiberfill products, which rely on a particular loft value, which acts to impart insulation, be maintained, and therefore, it is necessary to select a binder which achieves this end. However, Lindemann et al is not limited to insulation products and indeed, as discussed below, the only example drawn to the use of glass fiber mats (Example 13) is not an insulation product. Lindemann et al discloses further that their polymer emulsion binders can also contain thermosetting resins (column 10, line 61ff).

In Example 13, a glass fiber mat without a binder is prepared by treating a polyester scrim fabric with silicone release coating and catalyst which is then cured, placing the scrim in a paper hand sheet former, closing the unit, then separately preparing a fiberglass slurry, formed of fibers 1.25 inches long, i.e., chopped glass fibers (whose length is necessarily reduced during the manufacture of the mat due to the mixing steps 2) and 6)) in water, adding water and polyoxyethylated alkylamine, further diluting the fiberglass slurry, and dropping the diluted slurry through the scrim which forms an unbonded fiber mat. Subsequently, the unbonded glass fiber sandwiched between layers of scrim is immersed in the aqueous bonding solution made from urea-formaldehyde (U-F) binder, the mat is then removed and dried, and the scrim material is peeled away (column 23, line 50 through column 24, line 64).

Lindemann et al discloses improvement of dry and wet tensile and the tear strength of the glass fiber mat by the addition of thermoplastic copolymers to the U-F resin (column 25, lines 36-38), but is silent to the process steps of the present invention.

Lindemann et al does not disclose hydrophilic latices of the type recited in the present claims. Among the applicable monomers described for Lindemann et al's emulsion (paragraph bridging columns 5 and 6), there is no requirement that the monomers contain hydrophilic functional groups. Nor are the presently-recited hydrophilic latices an aqueous copolymer emulsion which contains a first polymer network which is intertwined on a molecular scale with a second polymer network. Nor does Lindemann et al disclose the use of a water-repellent agent with a latex in a sizing treatment, as recited in Claims 9 and 22. Nor does Lindemann et al disclose a protective colloid with an aqueous dispersion or emulsion of a homopolymer or copolymer as a latex in a sizing treatment.

For all the above reasons, it is respectfully requested that this rejection be REVERSED.

Ground (D)

Claims 2, 16-17, 29-31, and 33-34 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kennedy et al in view of Kajander and Strauss et al, and further in view of WO '411. That rejection is untenable and should not be sustained.

The deficiencies in the combination of Kennedy et al with Kajander and Strauss et al have been discussed above. WO '411 does not remedy these deficiencies.

WO '411 has been relied on for its disclosure of biologically degradable mineral-fiber compositions.

However, if such a composition were used in the composition resulting from the combination of Kennedy et al, Kajander and Strauss et al, the result would still not be the presently-claimed invention. In addition, the above-discussed combination of prior art could not have predicted the above-discussed superior results obtained, especially with a mineral wool having the properties recited in the present claims.

For all the above reasons, it is respectfully requested that this rejection be REVERSED.

Ground (E)

Claims 18, 28 and 35 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kennedy et al in view of WO '437. That rejection is untenable and should not be sustained.

The disclosure and deficiencies of Kennedy et al have been discussed above. WO '437 does not remedy these deficiencies.

The Examiner relies on WO '437 for a disclosure of mineral wool density.

However, even if the fire-resistant mat of Kennedy et al had the density as disclosed by WO '437, the result would still not be the presently-claimed invention. In addition, Kennedy et al combined with WO '437 could not have predicted the above-discussed superior results obtained.

For all the above reasons, it is respectfully requested that this rejection be REVERSED.

VIII. CONCLUSION

For the above reasons, it is respectfully requested that all the rejections still pending in the Final Office Action be REVERSED.

Respectfully submitted,

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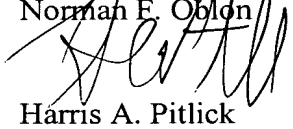
& NEUSTADT, P.C.
Norman F. Oblon



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CLAIMS APPENDIX

Claim 1: A method of improving the mechanical strength after ageing of an insulation product comprising mineral wool, comprising:

melting a glass or rock mineral composition,

fiberizing the molten glass or mineral composition into filaments to form a mineral wool,

applying a size comprising a thermosetting resin to the mineral wool which has just been formed,

simultaneously or sequentially applying a hydrophilic latex to the mineral wool, then

taking up the sized mineral wool in the form of a web, and then

thermally curing the size,

wherein the hydrophilic latex comprises a dispersion or emulsion of homopolymer or copolymer prepared from one or more monomers each having at least one hydrophilic functional group selected from the group consisting of hydroxyl, carboxyl and ester, or

the hydrophilic latex comprises a dispersion or emulsion of a homopolymer or copolymer and a protective colloid having hydrophilic functional groups.

Claim 2: The method according to Claim 1, wherein the mineral wool dissolves in a physiological medium.

Claim 5: The method according to Claim 1, wherein the homopolymer or copolymer is selected from the group consisting of vinyl polymers, vinyl acetate homopolymers or copolymers, acrylic polymers and carboxylic acid containing polymers.

Claim 6: The method according to Claim 5, wherein the homopolymer or copolymer is selected from the group consisting of a polyvinyl acetate homopolymer, a vinyl acetate/ (meth) acrylic acid or ester copolymer, a vinyl acetate/maleic ester copolymer, a vinyl acetate/olefin copolymer, a vinyl acetate/vinyl chloride copolymer, a silanized acrylonitrile/acrylic ester, and a silanized styrene/acrylic acid or ester copolymer.

Claim 7: The method according to Claim 1, wherein the latex is an aqueous dispersion or emulsion of a homopolymer or copolymer and a protective colloid having hydrophilic functional groups.

Claim 8: The method according to Claim 7, wherein the latex comprises a copolymer and a protective colloid, and the copolymer is selected from the group consisting of a silanized or non-silanized vinyl chloride/ethylene copolymer and a silanized or non-silanized vinyl chloride/vinyl laurate/ethylene terpolymer.

Claim 9: The method according to Claim 1, wherein the latex further comprises a water-repellent agent.

Claim 10: The method according to Claim 1, wherein the homopolymer or copolymer has a glass transition temperature T_g of less than 80°C.

Claim 11: The method according to Claim 1, wherein the homopolymer or copolymer has a glass transition temperature T_g of greater than -5°C.

Claim 12: The method according to Claim 1, wherein after said curing, the solids content of the hydrophilic latex is less than 5% by weight with respect to the weight of mineral wool.

Claim 13: The method according to Claim 1, wherein the hydrophilic latex is mixed with the size before application to the mineral wool.

Claim 14: The method according to Claim 1, wherein the hydrophilic latex is applied to the mineral wool separately from the size.

Claim 15: An insulation product prepared by

melting a glass or rock mineral composition,

fiberizing the molten glass or mineral composition into filaments to form a mineral wool,

applying a size comprising a thermosetting resin to the mineral wool which has just been formed,

simultaneously or sequentially applying a hydrophilic latex to the mineral wool, then

taking up the sized mineral wool in the form of a web, and then

thermally curing the size,

wherein the hydrophilic latex comprises a dispersion or emulsion of homopolymer or copolymer prepared from one or more monomers each having at least one hydrophilic functional group selected from the group consisting of hydroxyl, carboxyl and ester, or

the hydrophilic latex comprises a dispersion or emulsion of a homopolymer or copolymer and a protective colloid having hydrophilic functional groups.

Claim 16: The insulation product according to Claim 15, wherein the mineral wool comprises glass or rock wool which dissolves in a physiological medium.

Claim 17: The insulation product according to Claim 16, wherein the mineral wool dissolves in a saline solution simulating a physiological medium at a rate of at least 30 ng/cm^2 per hour, measured at pH 4.5, and at a rate of at least 30 ng/cm^2 per hour, measured at pH 7.5.

Claim 18: The insulation product according to Claim 15, wherein the insulation product has a density of at least 30 kg/m^3.

Claim 19: The insulation product of Claim 15, wherein the insulation product is a thermal and/or acoustic insulation product.

Claim 21: A sizing composition comprising a phenolic resin and a hydrophilic latex, wherein the hydrophilic latex comprises a dispersion or emulsion of homopolymer or copolymer prepared from one or more monomers each having at least one hydrophilic functional group selected from the group consisting of hydroxyl, carboxyl and ester, or the hydrophilic latex comprises a dispersion or emulsion of a homopolymer or copolymer and a protective colloid having hydrophilic functional groups.

Claim 22: The method of Claim 9, wherein the water repellent agent is a silicone or a fluorinated compound.

Claim 23: The method of Claim 10, wherein the homopolymer or copolymer has a glass transition temperature T_g of less than 50°C.

Claim 24: The method of Claim 11, wherein the homopolymer or copolymer has a glass transition temperature T_g of greater than 0°C.

Claim 25: The method of Claim 12, wherein the solids content of the hydrophilic latex is about 0.01 to 5% by weight with respect to the weight of the mineral wool.

Claim 26: The method of Claim 1, wherein the thermosetting resin is a phenolic resin.

Claim 27: The insulation product of Claim 15, wherein the thermosetting resin is a phenolic resin.

Claim 28: The insulation product of Claim 18, wherein the density is at least 80 kg/m^3.

Claim 29: A method of improving the mechanical strength after ageing of an insulation product comprising mineral wool, comprising:

melting a glass or rock mineral composition,

fiberizing the molten glass or mineral composition into filaments to form a mineral wool,

applying a size comprising a thermosetting resin to the mineral wool which has just been formed,

simultaneously or sequentially applying a hydrophilic latex to the mineral wool, then

taking up the sized mineral wool in the form of a web, and then

thermally curing the size,

wherein the mineral wool dissolves in a physiological medium and comprises 8 to 25% by weight of at least one alkali metal oxide.

Claim 30: An insulation product prepared by

melting a glass or rock mineral composition,

fiberizing the molten glass or mineral composition into filaments to form a mineral wool,

applying a size comprising a thermosetting resin to the mineral wool which has just been formed,

simultaneously or sequentially applying a hydrophilic latex to the mineral wool, then

taking up the sized mineral wool in the form of a web, and then

thermally curing the size,

wherein the mineral wool dissolves in a physiological medium and comprises 8 to 25% by weight of at least one alkali metal oxide.

Claim 31: The method of Claim 2, wherein the mineral wool comprises 8 to 25% by weight of at least one alkali metal oxide.

Claim 32: The method of Claim 7, wherein the protective colloid comprises polyvinyl alcohol or cellulose.

Claim 33: The insulation product of Claim 17, wherein the mineral wool dissolves in a saline solution simulating a physiological medium at a rate of at least 40 ng/cm^2 per hour, measured at pH 4.5, and at a rate of at least 40 ng/cm^2 per hour, measured at pH 7.5.

Claim 34: The insulation product of Claim 17, wherein the mineral wool dissolves in a saline solution simulating a physiological medium at a rate of at least 50 ng/cm^2 per hour, measured at pH 4.5, and at a rate of at least 50 ng/cm^2 per hour, measured at pH 7.5.

Claim 35: The insulation product according to Claim 15, wherein the insulation product has a density of at least 50 kg/m^3.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.